NVLAP LAB CODE 200707-0

ETSI EN 301 489-1 V1.6.1 (2005-09)
ETSI EN 301 489-6 V1.2.1 (2002-08)

MEASUREMENT AND TEST REPORT

For

Shenzhen Guo Wei Electronics Co. Ltd.

No.68 Guo Wei Road, Liantang Industrial District, Shenzhen, Guangdong, P.R.C

Model: DECT70-C22

This Report Concerns: ☒ Original Report	**Equipment Type:** DECT Cordless Phone
Test Engineer:	Vicent Kang
Report Number:	RSZ08052805-2Handset
Test Date:	2008-06-05 to 2008-06-06
Report Date:	2008-06-06
Reviewed By:	EMC Manager: Green Xu
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone, Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008

TABLE OF CONTENTS

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Shenzhen Guo Wei Electronics Co. Ltd.*'s product, model number: *DECT70-C22* or the "EUT" as referred to in this report is a *DECT Cordless Phone,* which measures approximately:16 cm L x 4.8 cm W x 2.5 cm H, rated input voltage: DC 2.7 V battery.

** All measurement and test data in this report was gathered from production sample serial number: 0805046 (Assigned by BACL, Shenzhen). The EUT was received on 2008-05-28.*

Objective

The following test report is prepared on behalf of *Shenzhen Guo Wei Electronics Co. Ltd.* in accordance with ETSI EN 301 489-1 V1.6.1 (2005-09) Plus Provisions of ETSI EN 301 489-6 V1.2.1 (2002-08), Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 6: Specific conditions for Digital Enhanced Cordless Telecommunications (DECT) equipment.

The objective of the manufacturer is to determine compliance with ETSI EN 301 489-1 V1.6.1 (2005-09) Plus Provisions of ETSI EN 301 489-6 V1.2.1 (2002-08).

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with ETSI EN 301 489-1 V1.6.1 (2005-09).

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp.(Shenzhen) to collect test data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 04, 2004. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0).

The current scope of accreditations can be found at
http://ts.nist.gov/Standards/scopes/2007070.htm

SYSTEM TEST CONFIGURATION

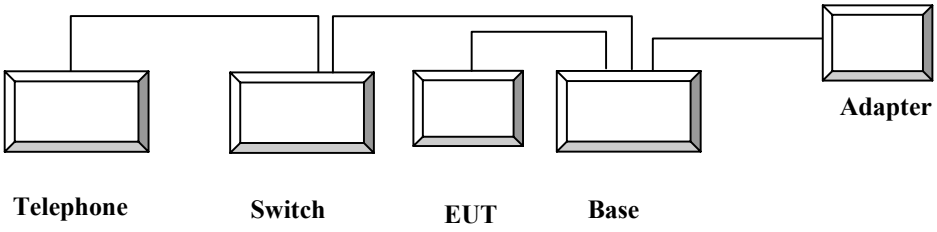
Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

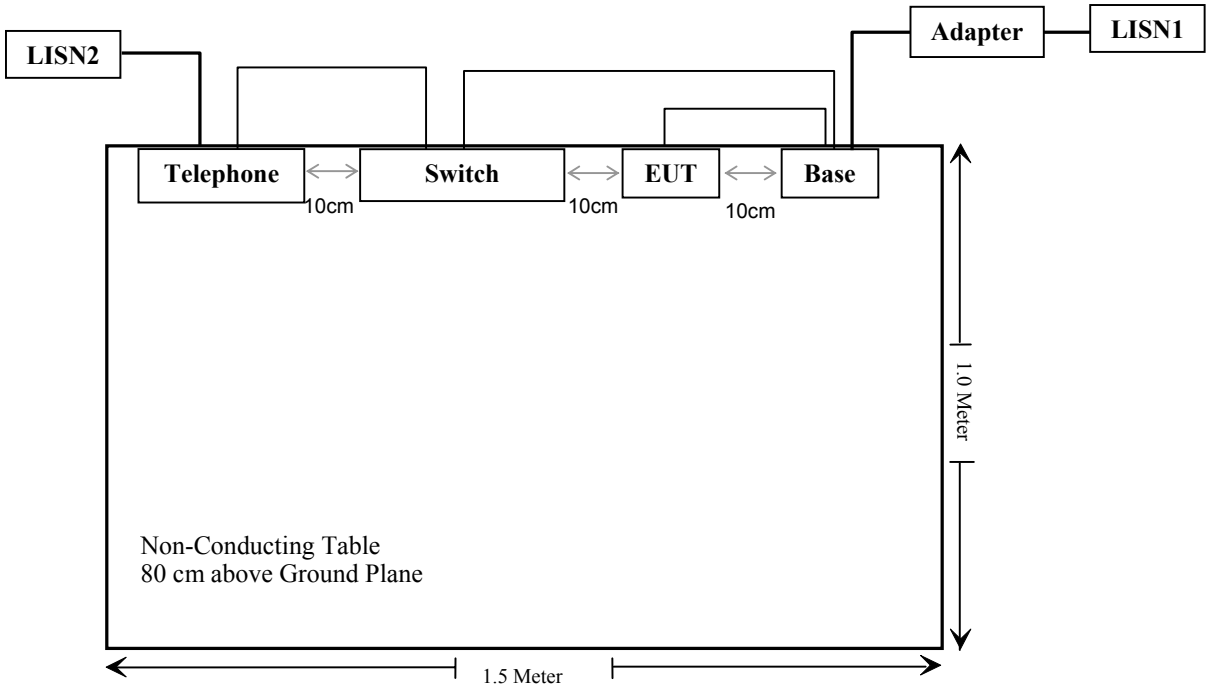
Equipment Modifications

No modifications were made to the unit tested.

Configuration of Test Setup



Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

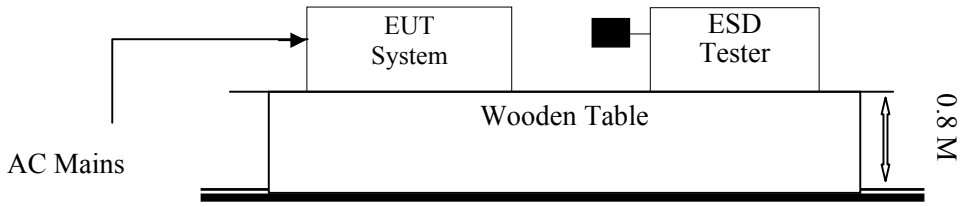
ETSI EN 301 489-6 V1.2.1 (2002-08)	Description of Test	Result
§7.1	Reference to clauses EN 301 489-1 §8.4 AC mains power input/output ports	N/A
	Reference to clauses EN 301 489-1§8.3 DC power input/output ports	N/A
	Reference to clauses EN 301 489-1 §8.2 Enclosure of ancillary equipment measured on a stand alone basis	N/A
	Reference to clauses EN 301 489-1 §8.5 Harmonic current emissions (AC mains input port)	N/A
	Reference to clauses EN 301 489-1 §8.6 Voltage fluctuations and flicker (AC mains input port)	N/A
	Reference to clauses EN 301 489-1§8.7 Telecommunication ports	N/A
§7.2	Reference to clauses EN 301 489-1 §9.2 Radio frequency electromagnetic field (80 MHz to 1 000 MHz and 1 400 MHz to 2 000 MHz)(EN 61000-4-3)	Compliant
	Reference to clauses EN 301 489-1 §9.3 Electrostatic discharge (EN 61000-4-2)	Compliant
	Reference to clauses EN 301 489-1§9.4 Fast transients, common mode (EN 61000-4-4)	N/A
	Reference to clauses EN 301 489-1§9.5 Radio frequency, common mode (EN 61000-4-6)	N/A
	Reference to clauses EN 301 489-1 §9.6 Transients and surges in the vehicular environment (ISO 7637-2)	N/A
	Reference to clauses EN 301 489-1§9.8 Surges (EN 61000-4-5)	N/A
	Reference to clauses EN 301 489-1§9.7 Voltage dips and interruptions (EN 61000-4-11)	N/A

ETSI EN 301 489-6 V1.2.1 (2002-08) §7.2 - ELECTROSTATIC DISCHARGE

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EM Test	ESD Tester	Dito	302105	2008-03-01	2009-03-01

Test System Setup



Remark: ■ is the tip of the electrode

EN 61000-4-2 specifies that a tabletop EUT shall be placed on a non-conducting table which is 80 centimeters above a ground reference plane and that floor mounted equipment shall be placed on a insulating support approximately 10 centimeters above a ground plane. During the tests, the EUT is positioned over a ground reference plane in conformance with this requirement.

For tabletop equipment, a 1.5 by 1.0-meter metal sheet (HCP) is placed on the table and connected to the ground plane via a metal strap with two 470 k Ohms resistors in series. The EUT and attached cables are isolated from this metal sheet by *0.5-millimeter* thick insulating material. A Vertical Coupling Plane (VCP) grounded on the ground plane through the same configuration as in the HCP is used.

Test Standard

ETSI EN 301 489-1 V1.6.1 / EN 61000-4-2: 1995+A1: 1998+A2: 2001
Test Level 3 for Air Discharge at ±8 kV
Test Level 2 for Contact Discharge at ±4 kV

Test Level

Level	Test Voltage Contact Discharge (±kV)	Test Voltage Air Discharge (±kV)
1.	2	2
2.	4	4
3.	6	8
4.	8	15
X.	Special	Special

Performance criterion: B

Test Procedure

Air Discharge:

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

Contact Discharge:

All the procedure shall be same as Section 8.3.1 of EN 61000-4-2, except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

Indirect discharge for horizontal coupling plane

At least 20 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

Indirect discharge for vertical coupling plane

At least 20 single discharges shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

Test Data and Setup Photo

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56%
ATM Pressure:	100.2kPa

The testing was performed by Vicent Kang on 2008-06-05.

Test Mode: Talking

Table 1: Electrostatic Discharge Immunity (Air Discharge)

EN 61000-4-2 Test Points	Test Levels									
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV	-15kV	+15kV
Button 20 Points	A	A	A	A	A	A	A	A	/	/
LED 4 Points	A	A	A	A	A	A	A	A	/	/
Micphone 1 Point	A	A	A	A	A	A	A	A	/	/
Speaker 1 Point	A	A	A	A	A	A	A	A	/	/
Slots 10 Points	A	A	A	A	A	A	A	A	/	/

Table 2: Electrostatic Discharge Immunity (Direct Contact)

EN 61000-4-2 Test Points	Test Levels									
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV	-15kV	+15kV
/	/	/	/	/	/	/	/	/	/	/

Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP)

EN 61000-4-2 Test Points	Test Levels									
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV	-15kV	+15kV
Front Side	A	A	A	A	/	/	/	/	/	/
Back Side	A	A	A	A	/	/	/	/	/	/
Left Side	A	A	A	A	/	/	/	/	/	/
Right Side	A	A	A	A	/	/	/	/	/	/

Table 4: Electrostatic Discharge Immunity (Indirect Contact VCP)

EN 61000-4-2 Test Points	Test Levels									
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV	-15kV	+15kV
Front Side	A	A	A	A	/	/	/	/	/	/
Back Side	A	A	A	A	/	/	/	/	/	/
Left Side	A	A	A	A	/	/	/	/	/	/
Right Side	A	A	A	A	/	/	/	/	/	/

Air Discharge

Indirect Contact

Test Setup photos

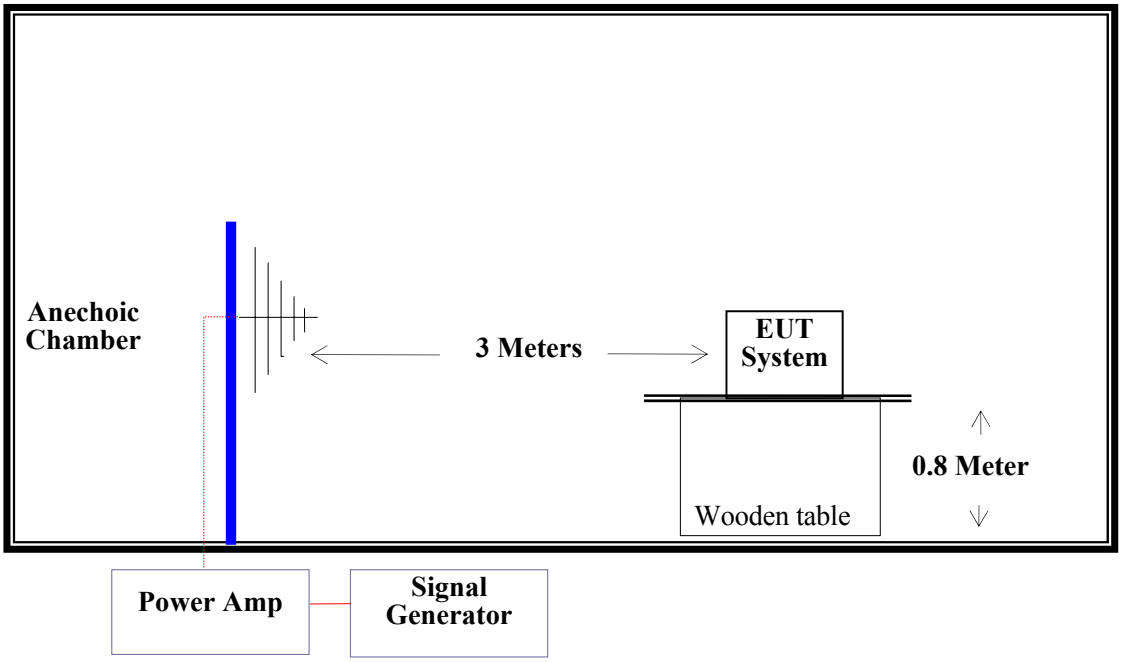
ETSI EN 301 489-6 V1.2.1 (2002-08) §7.2 - RF ELECTROMAGNETIC FIELD (80 MHz to 1000 MHz) AND (1400 MHz to 2000 MHz)

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Amplifier Research	Amplifier	150W1000	302657	2007-11-15	2008-11-15
Amplifier Research	Field Meter	FM5004	302149	2007-11-01	2008-11-01
Amplifier Research	Sensor	FP5000	301825	2008-02-22	2009-02-22
HP	Signal Generator	8648C	3426A01345	2007-10-10	2008-10-10
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2007-08-14	2008-08-14
Giga-tronics	Signal Generator	1026	270801	2007-09-29	2008-09-29
Sunol Sciences	Horn Antenna	DRH-118	A052604	2007-09-25	2008-09-25
Brüel & Kjær	Ear Simulator	4185	2190351	2008-05-30	2009-05-30
Brüel & Kjær	Telephone Test Head	4602B	2174439	2008-05-30	2009-05-30
LISTEN, Inc.	Microphone Power Supply	N/A	1199-PS165	2008-05-30	2009-05-30
Brüel & Kjær	Measuring Amplifier	2610	SA0252	2008-05-30	2009-05-30

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test System Setup



Test Standard

ETSI EN 301 489-1 V1.6.1 / EN 61000-4-3: 2006
Test Level 2 at 3V / m
Test Levels and Performance Criterion

Test Level

Level	Field Strength (V/m)
1.	1
2.	3
3.	10
X.	Special

Performance Criterion: A* (***Note: "A"** stand for, the speech output signal level shall be at least 35 dB less than the reference level recorded before the start of the test. This shall be verified by the procedure in EN 301 489-6 V1.2.1 clause 5.3.2.)

Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above the ground. The EUT is set 3 meters away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarizations of the antenna are set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually.
In order to judge the EUT performance, a CCD camera is used to monitor the EUT.
All the scanning conditions are as follows:

	Condition of Test	Remarks
1.	Field Strength	3 V/m (Test Level 2)
2.	Radiated Signal	Modulated
3.	Scanning Frequency	80 - 1000 MHz and 1400-2000MHz
4.	Sweeping time of radiated	0.0015 decade/s
5.	Dwell Time	1 Sec.

Test Data and Setup Photo

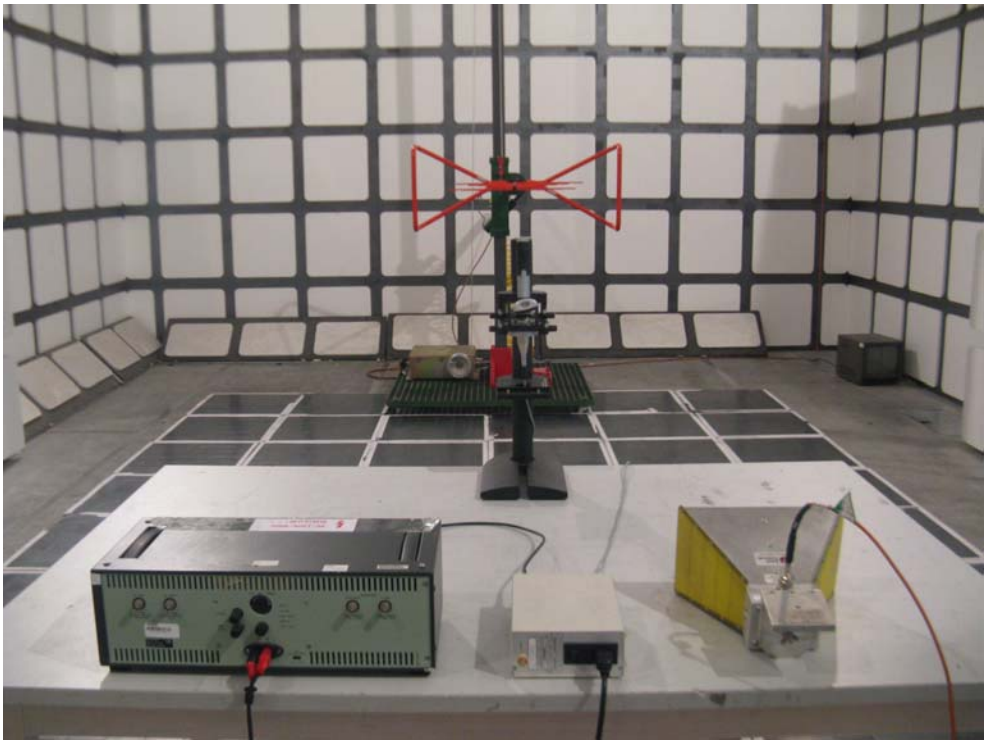
Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

The testing was performed by Vicent Kang on 2008-06-06.

Test Mode: Talking

Frequency Range (MHz)	Front (3 V/m)		Rear (3 V/m)		Left Side (3 V/m)		Right Side (3 V/m)	
	VERT	HORI	VERT	HORI	VERT	HORI	VERT	HORI
80-1000	A	A	A	A	A	A	A	A
1400-2000	A	A	A	A	A	A	A	A



Test Setup photos

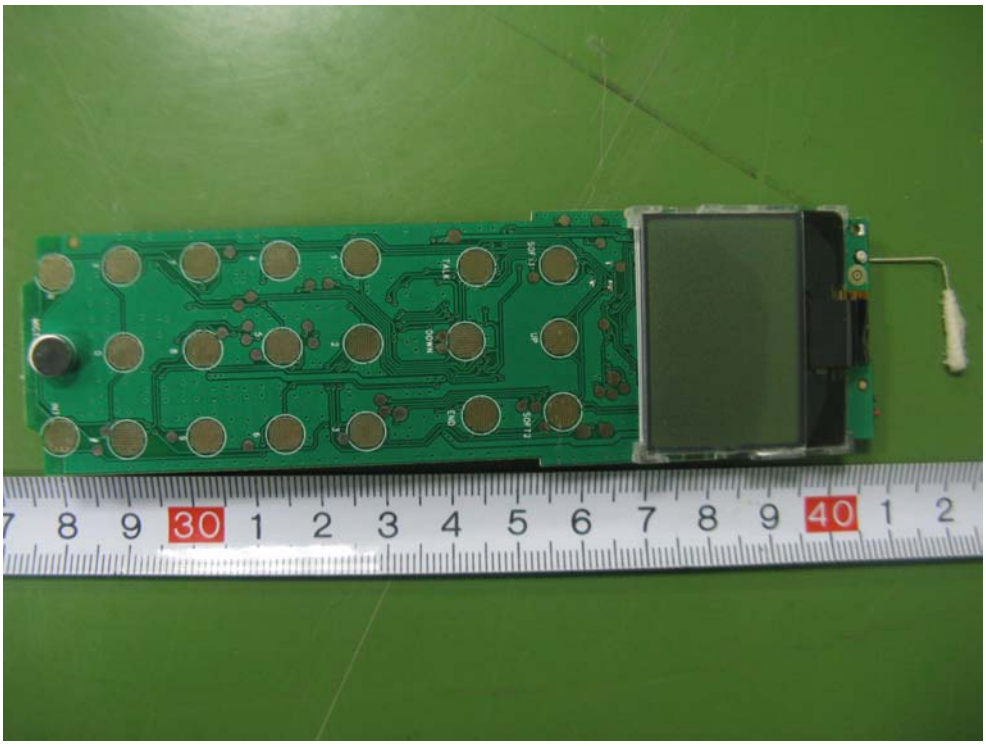
EXHIBIT A - EUT PHOTOGRAPHS

EUT - Top View

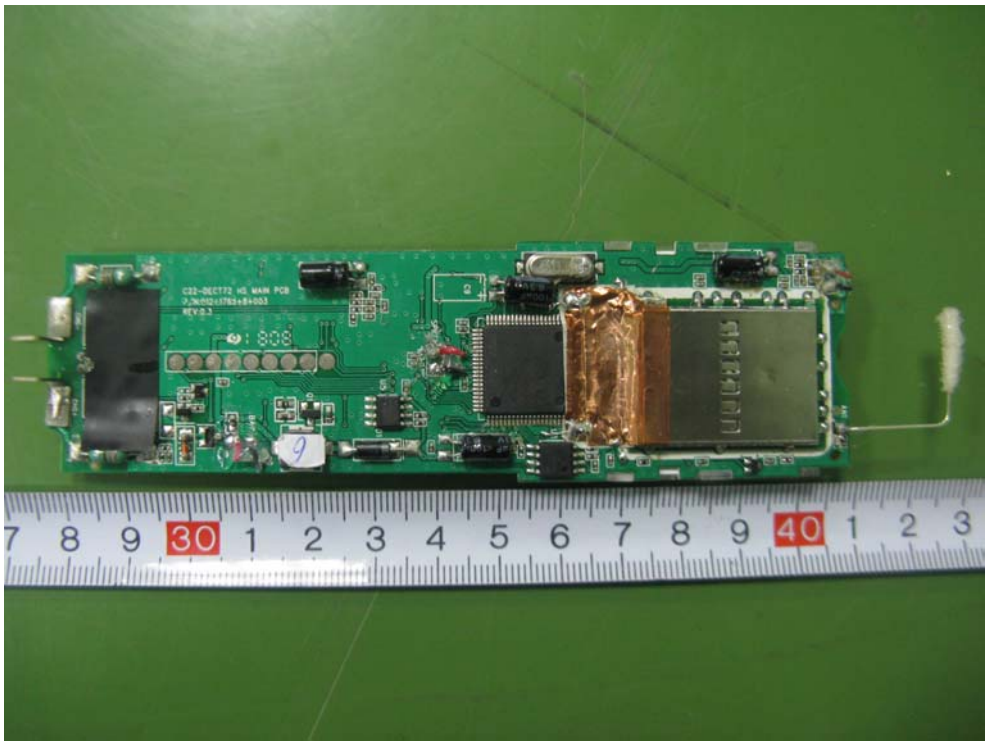
EUT - Bottom View

EUT - Cover Off View

EUT - Main Board Top Components View



EUT - Main Board Bottom Components View



******* END OF REPORT *******